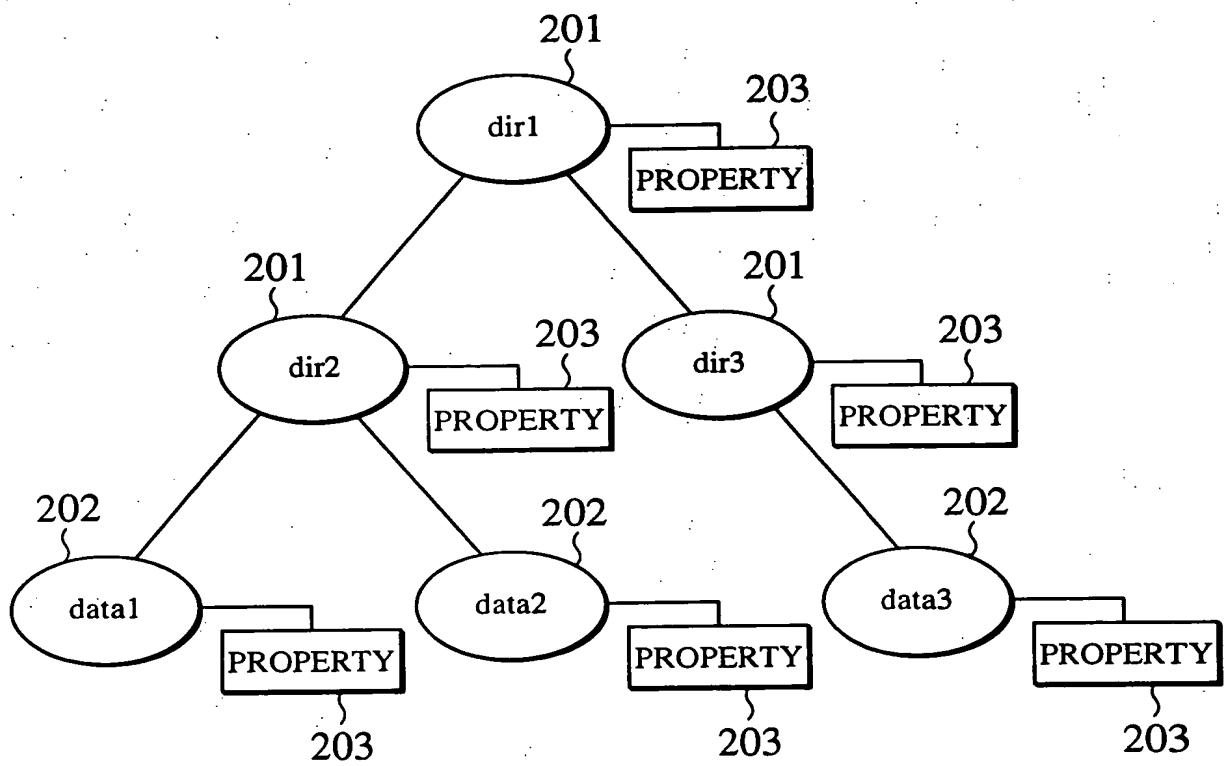


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FIG.1



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FIG.2

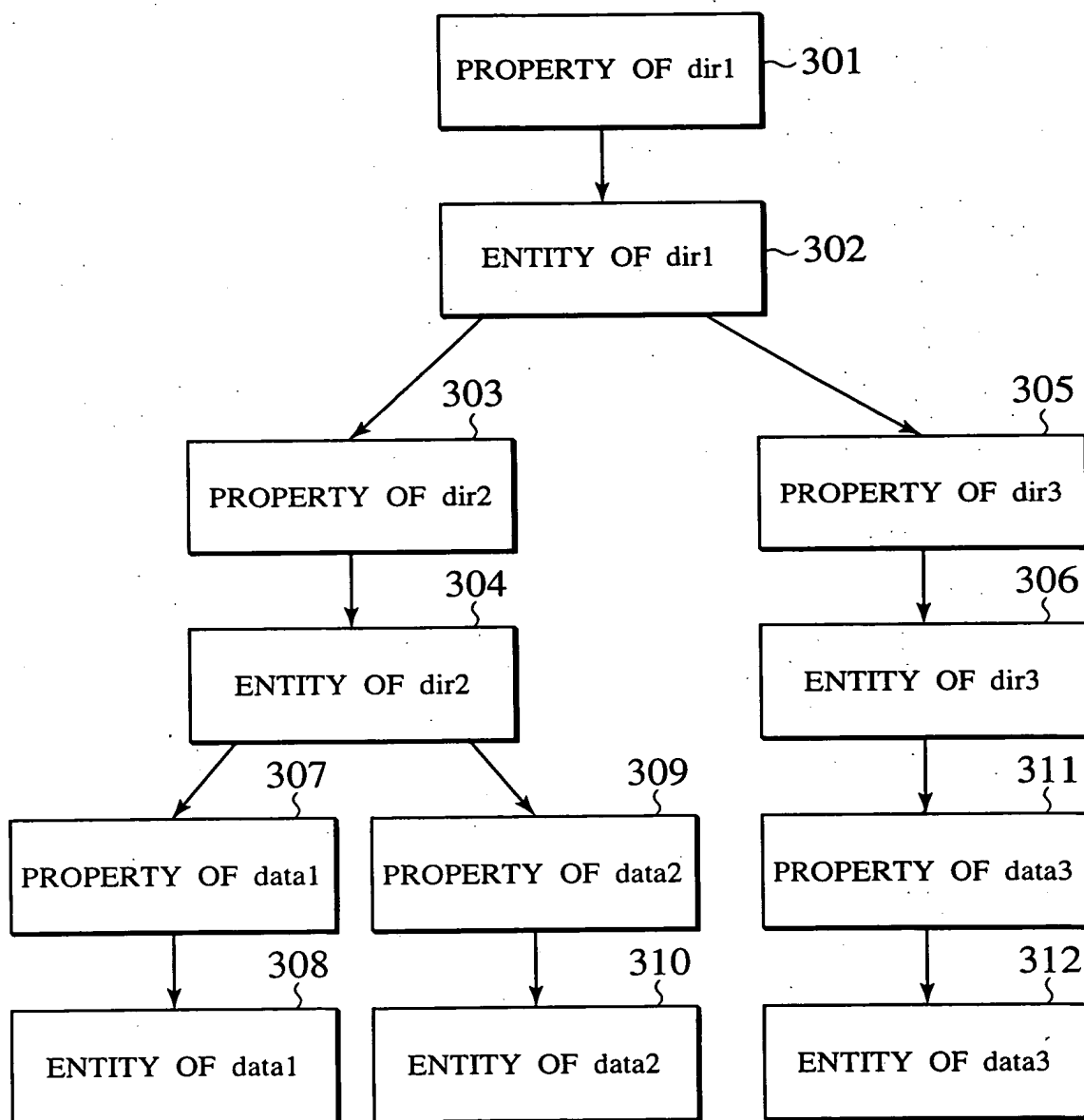
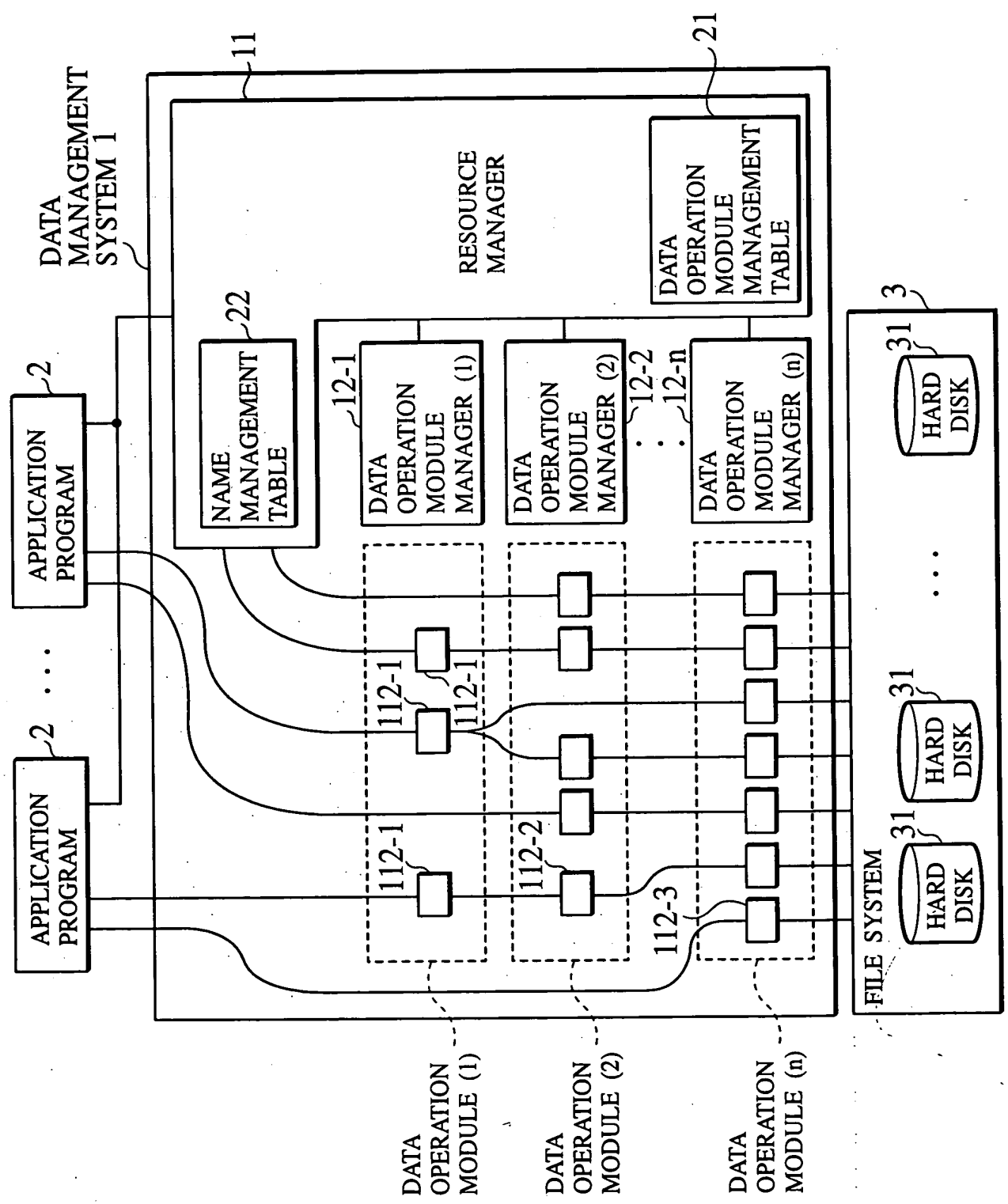
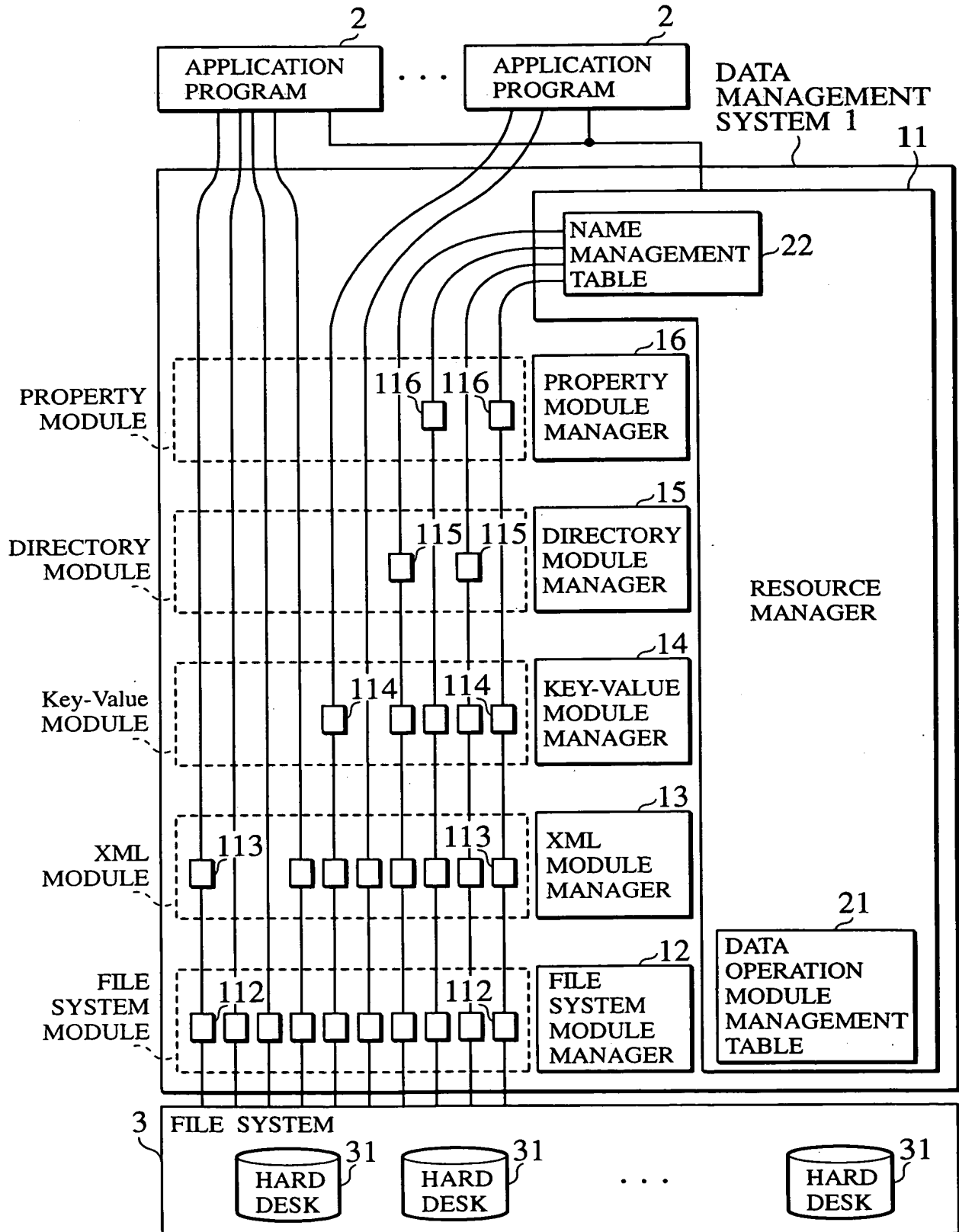


FIG.3



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FIG. 4



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FIG.5

DATA OPERATION MODULE NAME	POINTER TO DATA OPERATION MODULE MANAGER
<propm/>	POINTER TO PROPERTY MODULE MANAGER
<dirm/>	POINTER TO DIRECTORY MODULE MANAGER
<kvm/>	POINTER TO Key-Value MODULE MANAGER
<xmlm/>	POINTER TO XML MODULE MANAGER
<fsm/>	POINTER TO FILE SYSTEM MODULE MANAGER

FIG.6

NAME	POINTER TO PROPERTY MODULE	POINTER TO DIRECTORY MODULE
/dir1		
/dir1/dir2		
/dir1/dir2/data1		
/dir1/dir3		
/dir1/dir2/data3		
.	.	.
.	.	.
.	.	.

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FIG.7

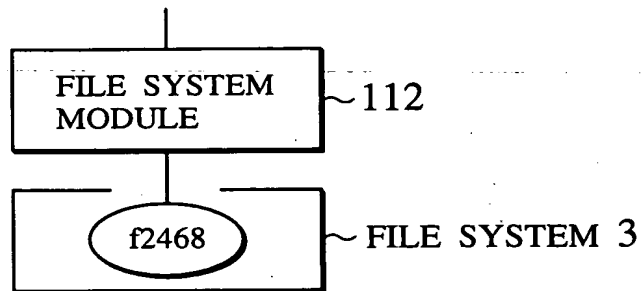


FIG.8

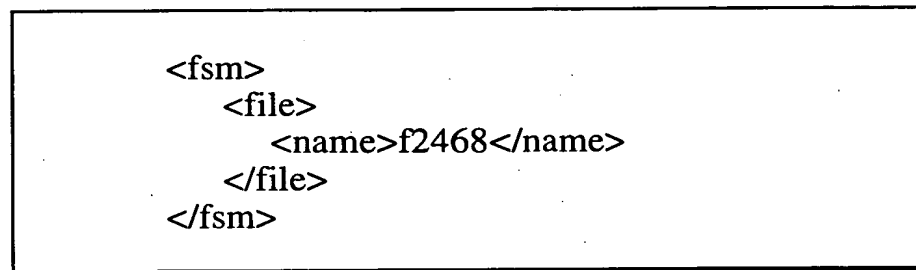
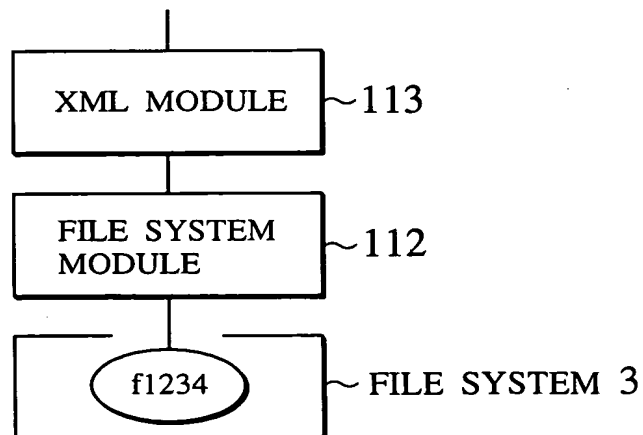


FIG.9



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FIG.10

```
<xmlm>  
  <fsm>  
    <file>  
      <name>f1234</name>  
    </file>  
  </fsm>  
</xmlm>
```

FIG.11

```
<kvtable>  
  <entry>  
    <key>OSAKA</key>  
    <value>TAKOYAKI</value>  
  </entry>  
  <entry>  
    <key>HAKATA</key>  
    <value>KARASHIMENTAIKO</value>  
  </entry>  
  .  
  .  
  .  
</kvtable>
```

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FIG.12

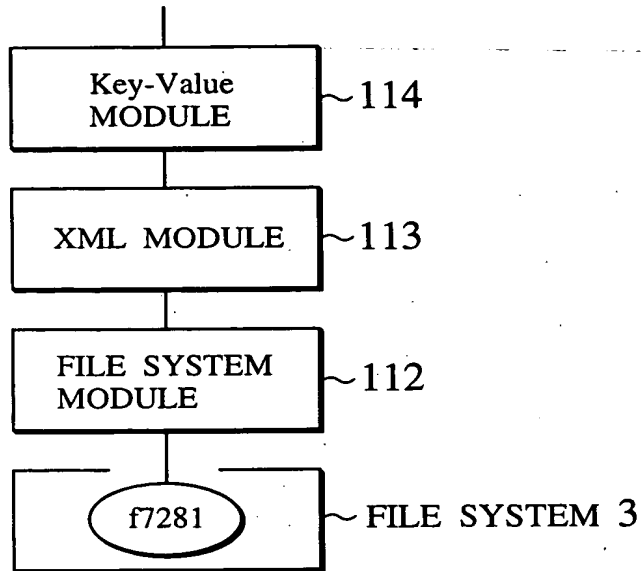
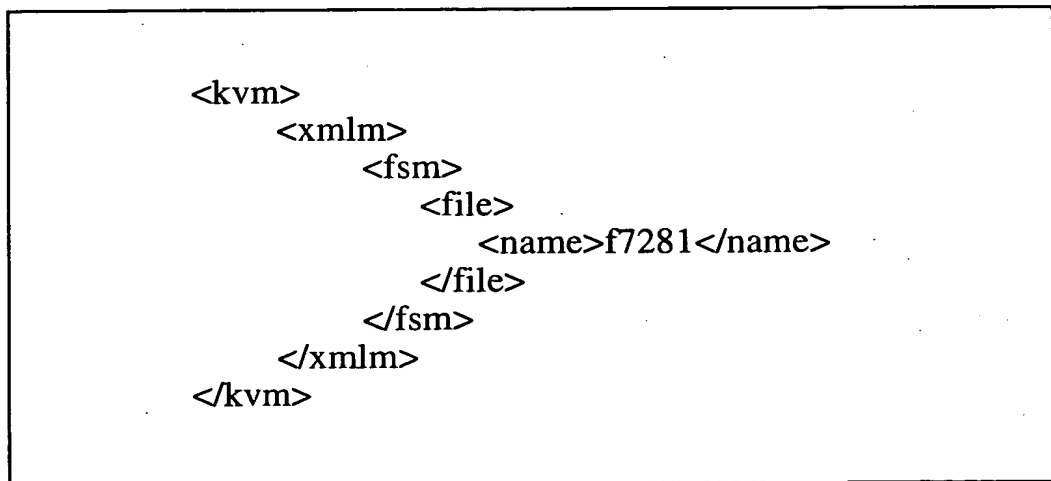


FIG.13





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## FIG.14

```
<kvtable>
  <entry>
    <key>creationdate</key>
    <value>1999-08-21/14:32:51.012345</value>
  </entry>
  <entry>
    <key>owner</key>
    <value>John</value>
  </entry>
  <entry>
    <key>module</key>
    <value>
      <xmlm>
        <fsm>
          <file>
            <name>f3617</name>
          </file>
        </fsm>
      </xmlm>
    </value>
  </entry>
  .
  .
  .
</kvtable>
```

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FIG.15

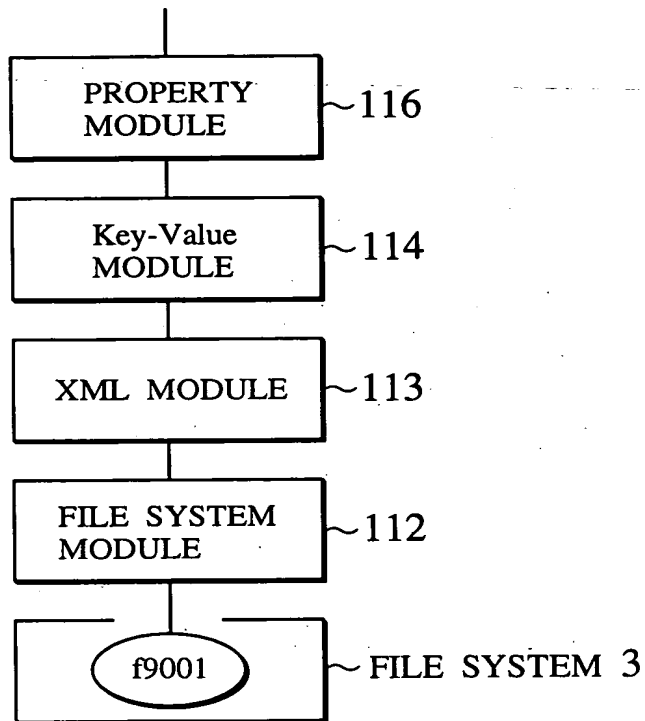


FIG.16

```
<propm>
  <kvm>
    <xmlm>
      <fsm>
        <file>
          <name>f9001</name>
        </file>
      </fsm>
    </xmlm>
  </kvm>
</propm>
```

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## FIG.17

```
<kvtable>
  <entry>
    <key>data1</key>
    <value>
      <propm>
        <kvm>
          <xmlm>
            <fsm>
              <file>
                <name>f9001</name>
              </file>
            </fsm>
          </xmlm>
        </kvm>
      </propm>
    </value>
  </entry>
  <entry>
    <key>data2</key>
    <value>
      <propm>
        <kvm>
          <xmlm>
            <fsm>
              <file>
                <name>f6421</name>
              </file>
            </fsm>
          </xmlm>
        </kvm>
      </propm>
    </value>
  </entry>
</kvtable>
```

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FIG.18

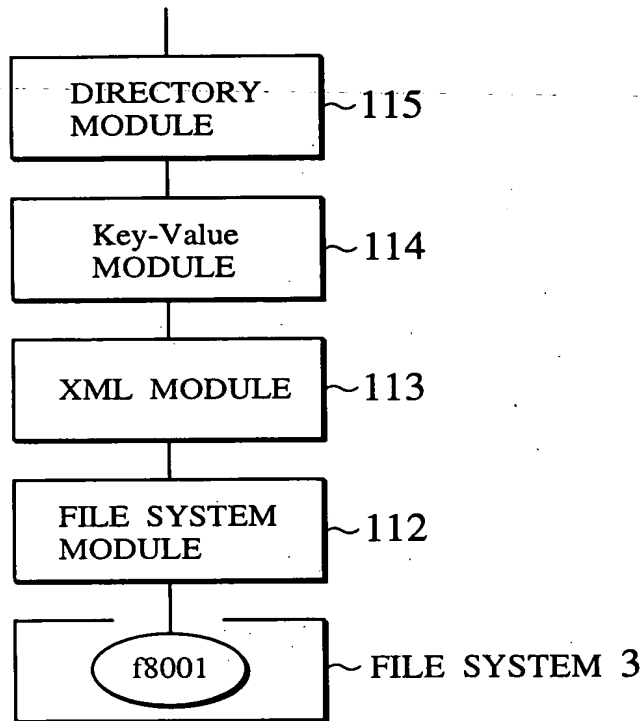
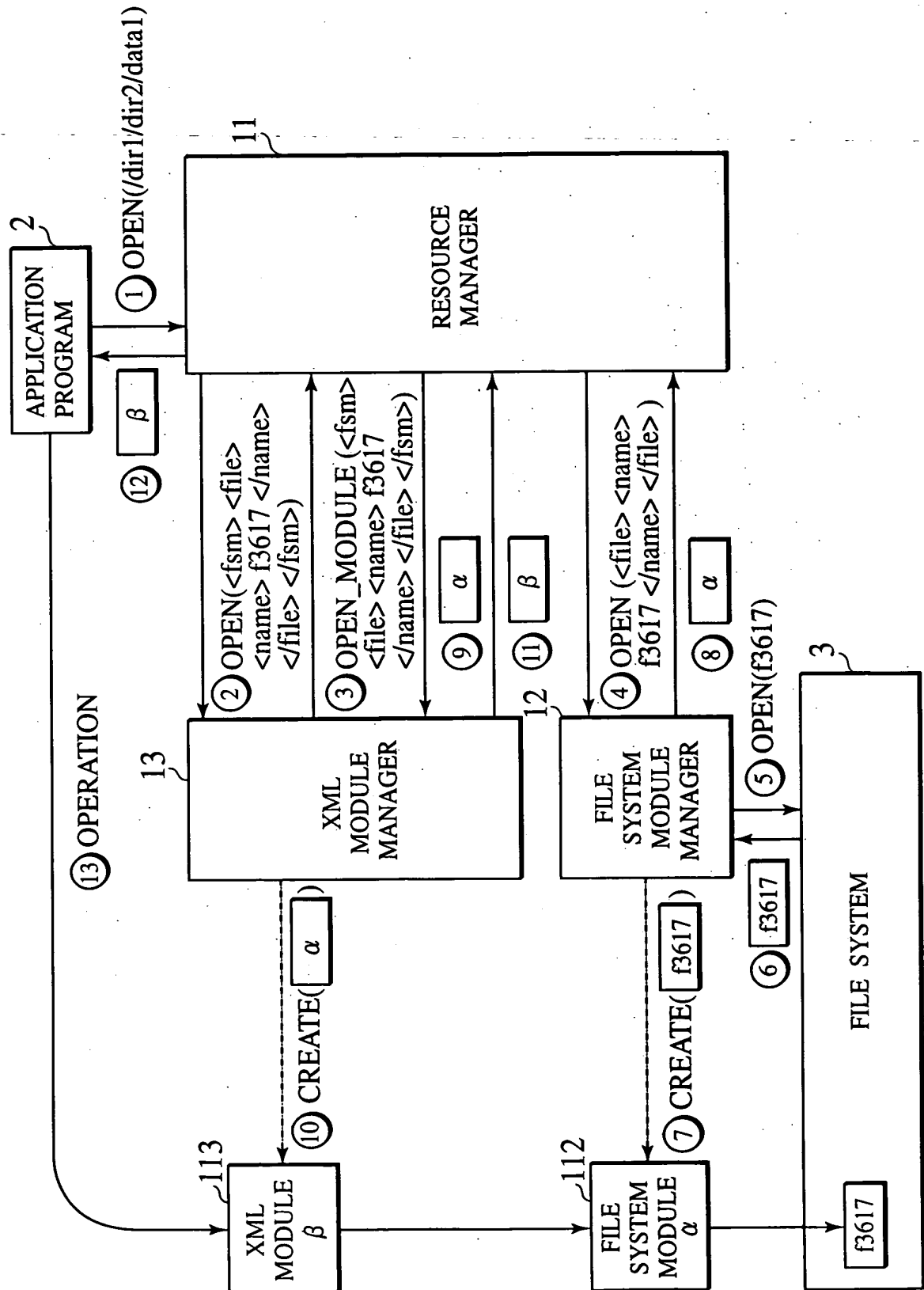


FIG.19

```
<dirm>
  <kvm>
    <xmlm>
      <fsm>
        <file>
          <name>f8001</name>
        </file>
      </fsm>
    </xmlm>
  </kvm>
</dirm>
```

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FIG.20



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## FIG.21

```
<rule>
  <category> <property/> </category>
  <expand> <propm/> </expand>
</rule>

<rule>
  <category> <directory/> </category>
  <expand> <dirm/> </expand>
</rule>

<rule>
  <category> <association/> </category>
  <expand> <kvm/> </expand>
</rule>

<rule>
  <category> <document/> </category>
  <expand> <xmlm/> </expand>
</rule>

<rule>
  <category> <binary/> </category>
  <expand> <fsm/> </expand>
</rule>

<rule>
  <category> <file/> </category>
  <expand> <file/> </expand>
</rule>
```

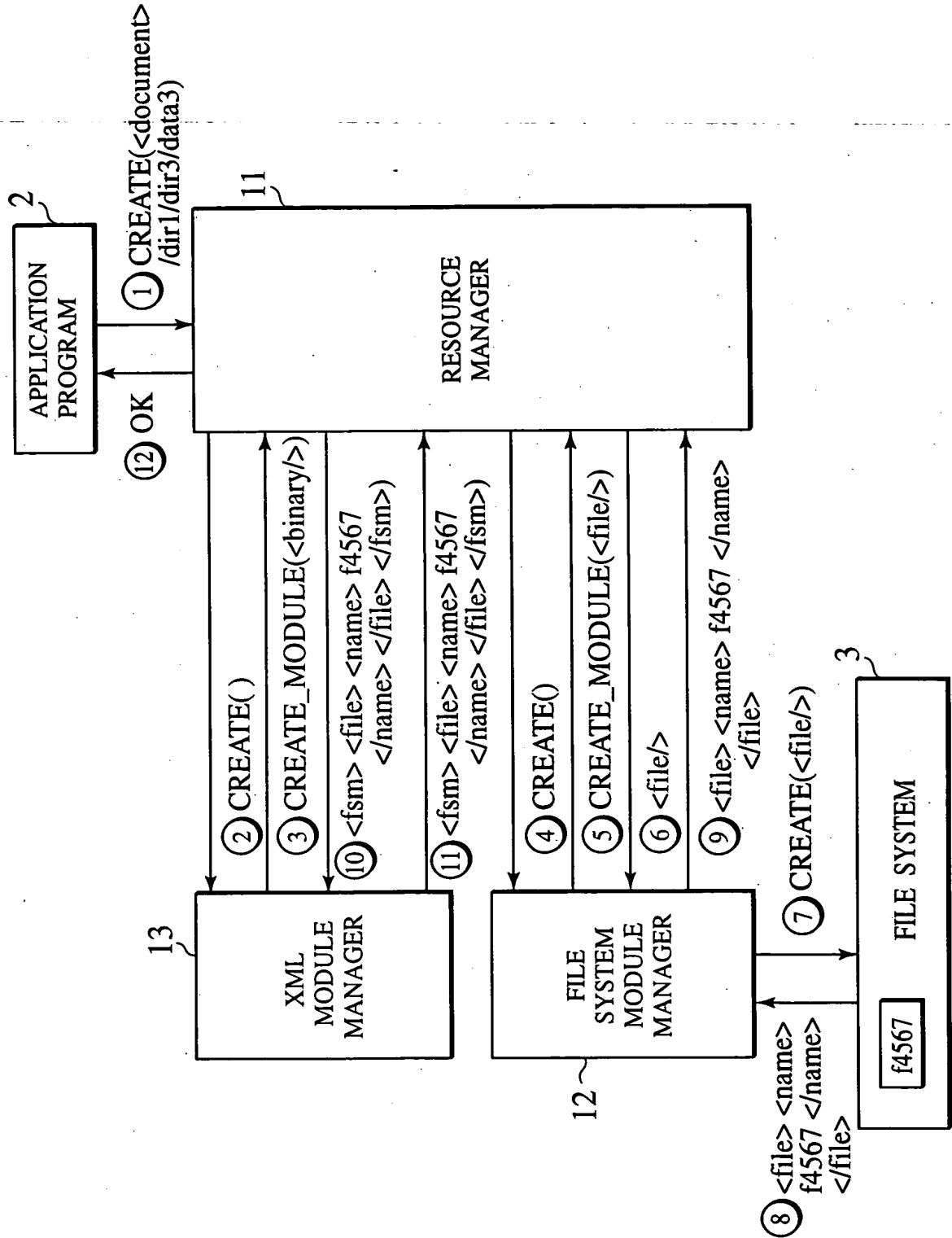
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## FIG.22

```
<rule>
  <category> <file/> </category>
  <expand>
    <file>
      <partition>1</partition>
    </file>
  </expand>
</rule>
```

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FIG.23





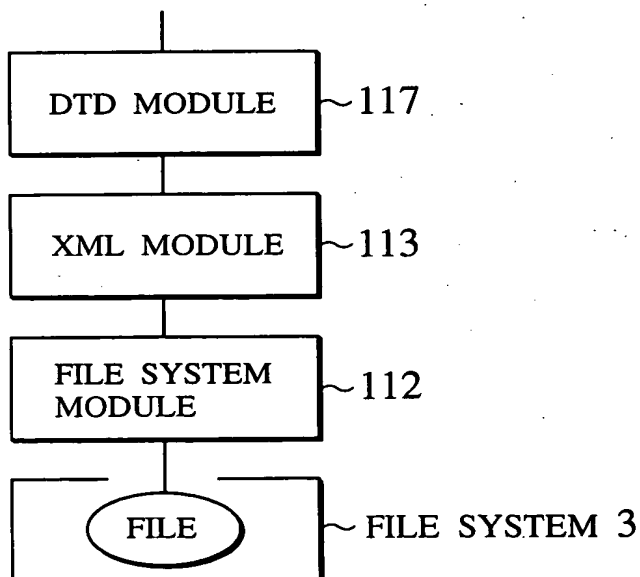
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FIG.24

```
<rule>
  <category> <document/> </category>
  <context>
    <not> <dtdm/> </not>
  </context>
  <expand> <dtdm/> </expand>
</rule>
```

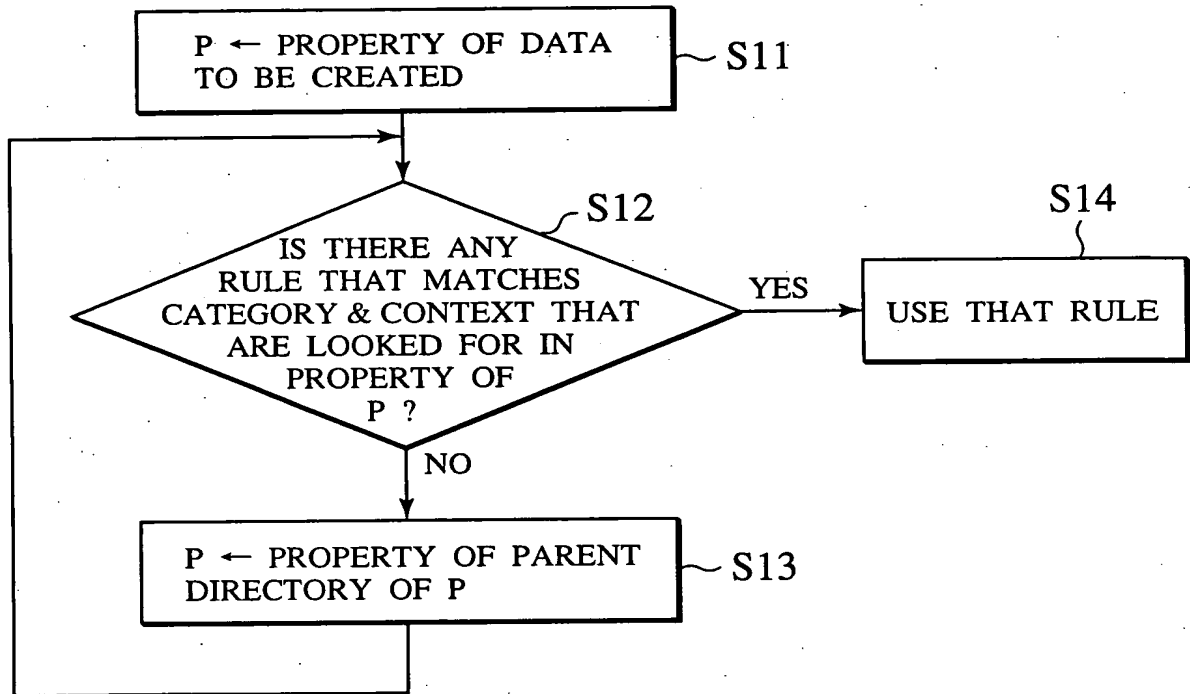
FIG.25

APPLICATION PROGRAM



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FIG.26



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FIG.27A

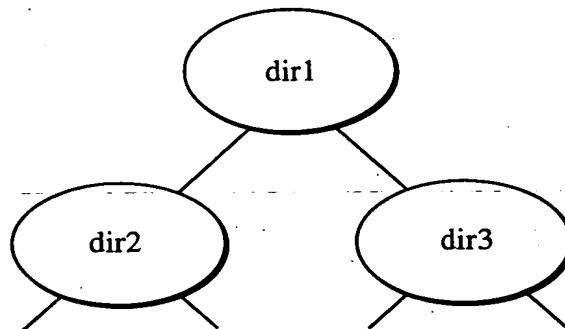


FIG.27B

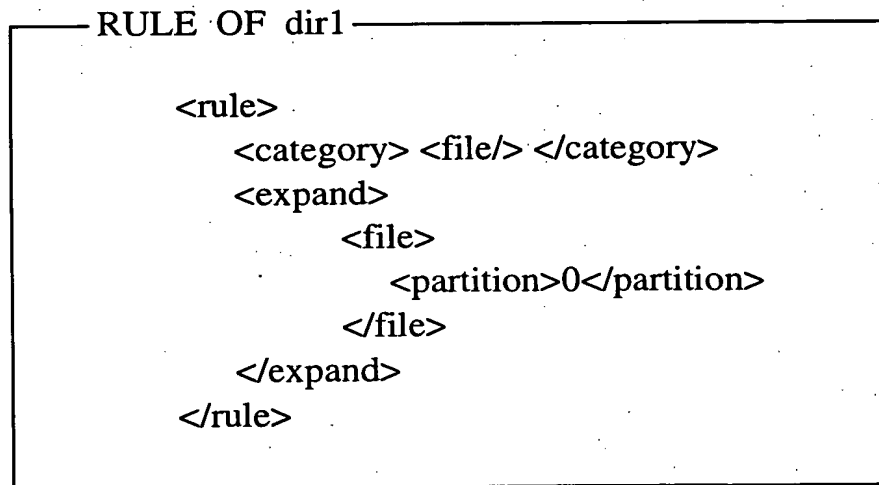
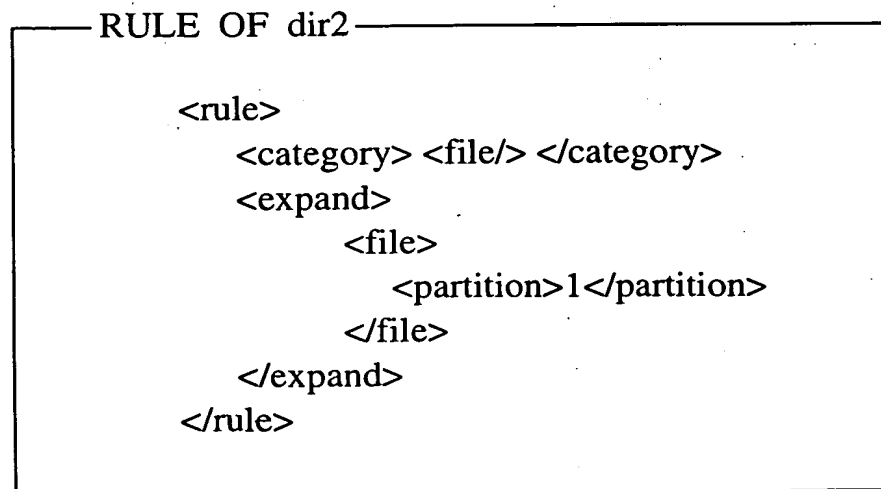


FIG.27C



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FIG.28A

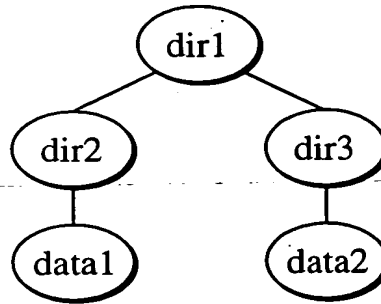


FIG.28B

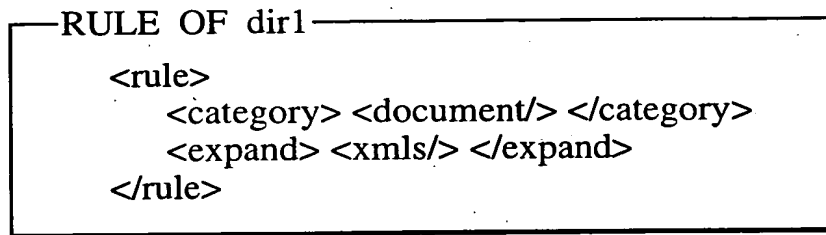


FIG.28C

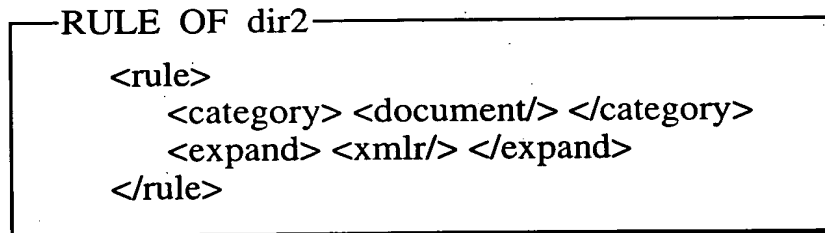


FIG.28D

MODULE HIERARCHY OF data1

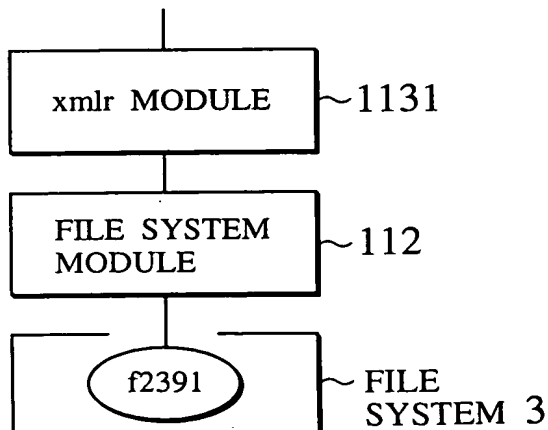
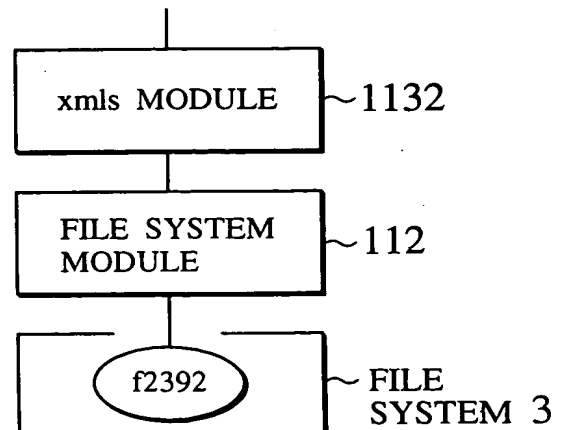


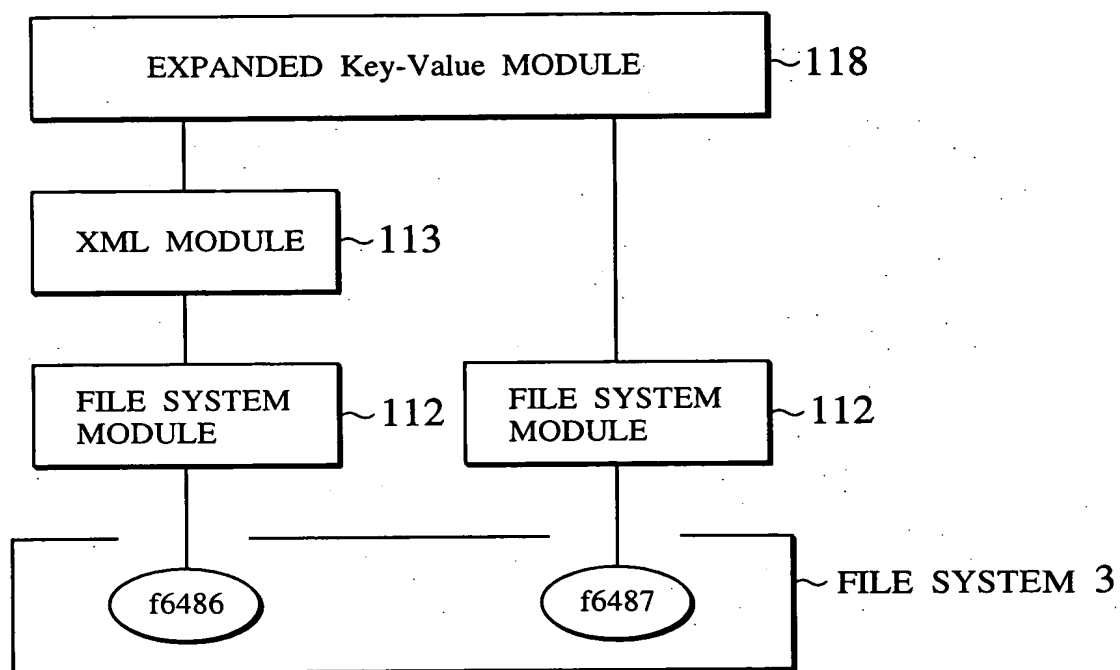
FIG.28E

MODULE HIERARCHY OF data2



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FIG.29



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FIG.30

```
<kva>
  <kvainfo>
    <data>
      <xmlm>
        <fsm>
          <file>
            <name>f6486</name>
          </file>
        </fsm>
      </xmlm>
    </data>
    <index>
      <fsm>
        <file>
          <name>f6486</name>
        </file>
      </fsm>
    </index>
  </kvainfo>
</kva>
```